



*AVMI's new Aquilion PRIME™ 80 slice CT scanner can acquire 80 slices per gantry rotation at an industry leading 0.350 second gantry rotation speed allowing us to image our small animal patients without the need for general anesthesia.*

**Anesthesia** has traditionally been required to immobilize veterinary patients during CT procedures. AVMI's new Aquilion PRIME™ 80 slice CT scanner can acquire 80 slices per gantry rotation at an industry leading 0.350 second gantry rotation speed allowing us to capture images of our small animal patients without the need for general anesthesia. Critical patients including those in need of continuous oxygen supplementation can now be imaged without the need for general anesthesia or sedation. Patients suffering from traumatic head or chest injuries or diseases affecting their cardiopulmonary systems, (e.g., heart failure, pneumothorax, feline asthma, pleural or pericardial effusions) can benefit from the unique information provided by a CT examination without the risks associated with general anesthesia.

# ADVANCED

VETERINARY MEDICAL IMAGING

*"When the image matters"*

As you can tell by our name, at AVMI we are ALL about imaging. We have state-of-the-art equipment encompassing every diagnostic imaging modality that allows us to offer the best procedure for your patient.

Over the last 30 years, southern California veterinarians have come to learn that they can rely on AVMI to help them:

- chose the right imaging modality
- offer timely scheduling availability
- provide cost effective imaging options
- reach the correct diagnosis
- deliver timely results allowing the initiation of the most effective treatments



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## Computed Tomography

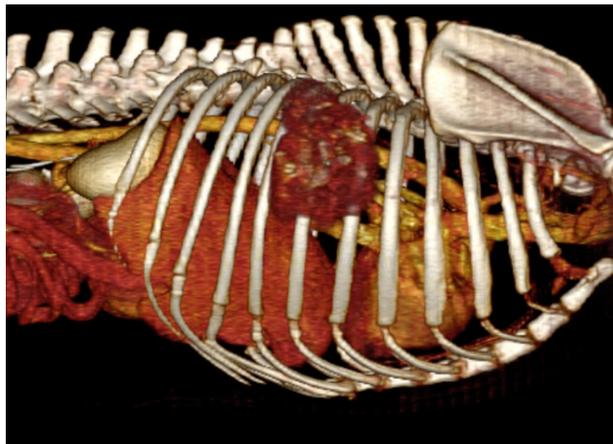


**Computed Tomography (CT)** is the diagnostic imaging modality that utilizes a rotating X-ray tube to acquire 3 dimensional images of a patient's internal anatomy.

Originally CT scanners used a "step and shoot" technique that required the patient to be stationary while the X-ray tube rotated around the patient collecting image data. The bed on which the patient rested would then be moved a small distance between X-ray tube rotations and the process repeated. This sequence was repeated until the entire area of anatomy was evaluated. This technique required a relatively long time to acquire a series of adjacent image slices of patient anatomy.

**Spiral CT scanners** represented a major innovation in CT technology. With spiral CT the X-ray tube is housed in a gantry that spins continuously around the patient while the patient is advanced through the scanner on a moving bed. The continuous movement of the patient during image acquisition allows the device to capture the patient's anatomy as a volume (compared to a series of adjacent slices). This image

data is then reconstructed into a series of axial slices for display. The volumetric nature of the data obtained by spiral CT scanners reduces artifacts during creation of images reformatted in alternative (usually orthogonal) image planes and allows for the creation of accurate 3 dimensional images of the patient's anatomy.



*Three dimensional volume reformat of a thoracic CT study of a dog with an osteosarcoma of the 7th rib on the right.*

**CT Fluoroscopy** is the latest CT technology available at AVMI. This technology allows near-continuous image update, as well as in-room table control and image viewing that facilitates CT guided procedures including CT guided biopsy. Percutaneous biopsies are much less invasive and more cost-effective than surgical biopsies. Computed tomography has become the modality of choice for guidance in many interventional procedures because of its superior contrast and spatial resolution as well as the ability to image areas not well demonstrated by ultrasonography such as the lung, retroperitoneum and bone. CT fluoroscopy has many potential advantages over conventional CT guided biopsy. CT fluoroscopy provides real-time image feedback of needle movement and allows confident collection of tissue samples from small regions of pathology or difficult to reach anatomy. The unique capabilities of CT fluoroscopy reduce patient radiation dose and increase procedure efficiency and accuracy leading to higher diagnostic yields and reduced procedure time.

In veterinary medicine these advantages translate into shorter anesthetic periods and improved patient safety.



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